What is claimed is:

1. A structure comprising:

an optoelectronic device;

a sub-mount containing electrical traces that are electrically connected to the optoelectronic device; and

a cap attached to the sub-mount so as to form a cavity enclosing the optoelectronic device, wherein the cap includes an optical element in a path of an optical signal of the optoelectronic device.

2. The structure of claim 1, wherein the optoelectronic device comprises a side-emitting laser that emits the optical signal.

3. The structure of claim 2, wherein the optical element comprises a reflector positioned to reflect the optical signal from an initial direction to an output path.

4. The structure of claim 3, wherein the output path is through the sub-mount.

5. The structure of claim 3, wherein the reflector comprises a portion of a wall of the cavity.

6. The structure of claim 1, wherein the sub-mount further comprises:

internal bonding pads that are within the cavity and connected to the optoelectronic device; and

external bonding pads that electrically connect to the internal bonding pads and are accessible outside the cavity.

7. The structure of claim 1, wherein the sub-mount further comprises active circuitry useful in operation of the optoelectronic device.

8. The structure of claim 1, wherein a bond of the cap to the sub-mount hermetically seals the cavity.

9. The structure of claim 8, wherein the optical element comprises a reflector on a portion of the walls of the cavity.

10. The structure of claim 8, wherein the cap comprises a silicon substrate including a depression that forms walls of the cavity.

11. The structure of claim 9, wherein the portion of the walls is along a <111> plane of the crystal structure of the silicon substrate.

12. A process comprising:

electrically connecting an optoelectronic device to a sub-mount;

fabricating a cap that includes an optical element; and

bonding the cap to the sub-mount, wherein the optoelectronic device is enclosed in a cavity between the sub-mount and the cap and an optical signal of the optoelectronic device is incident on the optical element.

13. The process of claim 12, wherein fabricating the cap comprises:

creating a depression in a substrate, the depression having walls that correspond to walls of the cavity; and

forming the optical element as a reflector corresponding to a reflective area on the walls of the depression.

14. The process of claim 13, wherein creating the depression comprises etching the substrate.

15. The process of claim 14, wherein the substrate comprises silicon, and the reflective area coincides with a <111> plane of a crystal structure of the silicon.

16. The process of claim 13, wherein forming the optical element comprises coating at least a portion of the walls of the depression with a reflective material.

17. A process comprising:

electrically connecting a plurality of lasers respectively to a plurality of sub-mount

areas of a first wafer, wherein each laser emits an optical signal;

fabricating a plurality of caps, wherein each cap includes an optical element;

bonding the caps to the first wafer, wherein the lasers are enclosed in respective cavities between the first wafer and the respective caps, and for each of the lasers, the optical element in the corresponding cap is positioned to receive the optical signal from the laser; and

dividing the resulting structure to separate a plurality of packages containing the lasers.

18. The process of claim 17, wherein the caps comprise respective areas of a second wafer, and bonding the caps to the wafer comprises bonding the second wafer to the first wafer.

19. The process of claim 18, wherein fabricating the caps comprises:

creating a plurality of depressions in the second wafer, wherein each depression has walls that correspond to walls of a corresponding one of the cavities; and

forming the optical elements as reflectors corresponding to reflective areas on the walls of respective depressions.

20. The process of claim 19, wherein the second wafer comprises silicon, and each of the reflective areas coincides with a <111> plane of a crystal structure of the silicon.